Software Test Plan

This document is an outline for a Software Test Plan, adapted from the IEEE Standard for Software Test Documentation.

SQAP/STP

Software Quality Assurance Plan

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Document History and Distribution

1. Version History

Version #	Date	Description	Author
V1.0	07/08/2014	First draft	Eduonix

2. Distribution

Recipient Name	Organisation	Distribution Method
Eduonix clients	Many	FTP

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1. INTRODUCTION

Overview, deliverables, reference material

The Software Test Plan (STP) is designed to prescribe the scope, approach, resources, and schedule of all testing activities. The plan must identify the items to be tested, the features to be tested, the types of testing to be performed, the personnel responsible for testing, the resources and schedule required to complete testing, and the risks associated with the plan.

1.1 Objectives

To fully test the Eduonix backup solution, ready for production. One testing team member will be working on this project daily for 7 consecutives days.

1.2 Testing Strategy

Testing is the process of analyzing a software item to detect the differences between existing and required conditions and to evaluate the features of the software item. (*This may appear as a specific document (such as a Test Specification), or it may be part of the organization's standard test approach. For each level of testing, there should be a test plan and an appropriate set of deliverables. The test strategy should be clearly defined and the Software Test Plan acts as the high-level test plan. Specific testing activities will have their own test plan. Refer to section 5 of this document for a detailed list of specific test plans.)*

Specific test plan components include:

- *Purpose for this level of test,*
- *Items to be tested,*
- *Features to be tested,*
- *Features not to be tested,*
- *Management and technical approach,*
- *Pass / Fail criteria,*
- *Individual roles and responsibilities,*
- *Milestones,*
- *Schedules, and*
- *Risk assumptions and constraints.*

1.3 Scope

(Specify the plans for producing both scheduled and unscheduled updates to the Software Test Plan (change management). Methods for distribution of updates shall be specified along with version control and configuration management requirements must be defined.)

Testing will be performed at several points in the life cycle as the product is constructed. Testing is a very 'dependent' activity. As a result, test planning is a continuing activity performed throughout the system development life cycle. Test plans must be developed for each level of product testing.

1.4 Reference Material

1.5 Definitions and Acronyms

(Specify definitions of all terms and agency acronyms required to properly interpret the Software Test Plan. Reference may be made to the Glossary of Terms on the IRMC web page.)

2. TEST ITEMS

(Specify the test items included in the plan. Supply references to the following item documentation:

- *Requirements specification,*
- *Design specification,*
- *Users guide,*
- *Operations guide,*
- *Installation guide,*
- *Features (availability, response time),*
- *Defect removal procedures, and*
- *Verification and validation plans.)*

2.1 Program Modules

Developer to test each module and provide report before sending to QA for further testing.

2.2 Job Control Procedures

No JCL, not IBM mainframe

2.3 User Procedures

Test cases, test sets and test reports must be peer verified before sign-off.

2.4 Operator Procedures

First run to cover all major elements, time allowed for 2 further runs after bug fixes.

3. FEATURES TO BE TESTED

Web application X
Web application XX
Incremental backup
Differential backup

4. FEATURES NOT TO BE TESTED

Disk check
Log rotate
Log backup

5. APPROACH

(Describe the overall approaches to testing. The approach should be described in sufficient detail to permit identification of the major testing tasks and estimation of the time required to do each task. Identify the types of testing to be performed along with the methods and criteria to be used in performing test activities. Describe the specific methods and procedures for each type of testing. Define the detailed criteria for evaluating the test results.)

(For each level of testing there should be a test plan and the appropriate set of deliverables. Identify the inputs required for each type of test. Specify the source of the input. Also, identify the outputs from each type of testing and specify the purpose and format for each test output. Specify the minimum degree of comprehensiveness desired. Identify the techniques that will be used to judge the comprehensiveness of the testing effort. Specify

any additional completion criteria (e.g., error frequency). The techniques to be used to trace requirements should also be specified.)

5.1 Component Testing

Unit test change to differential backups to check storage media before commencing backup sequence.

Unit test change to incremental backup to check storage media before commencing backup sequence.

5.2 Integration Testing

(Testing conducted in which software elements, hardware elements, or both are combined and tested until the entire system has been integrated. The purpose of integration testing is to ensure that design objectives are met and ensures that the software, as a complete entity, complies with operational requirements. Integration testing is also called System Testing.)

5.3 Conversion Testing

Data has to be exported from old backup system X

Data has to be imported into new system X and verified

Test import of backup schedules from old system X to new system X, Export system from .DAT file.Compare to backup procedure plan and re-import.

5.4 Job Stream Testing

QA environment is exact copy of production, consisting of a virtualized Xen Pool

x2 HP DL180 Server
Citrix Xen Server V5.6
VM1 – Backup server (Centos 64 bit)

5.5 Interface Testing

(Testing done to ensure that the application operates efficiently and effectively outside the application boundary with all interface systems.)

5.6 Security Testing

QA will perform system vulnerability analysis and penetration testing, using metasploit framework.

5.7 Recovery Testing

There are no failover or recovery mechanisms within this application.

5.8 Performance Testing

Performance test will be performed in BAU situation, as well as with increased network traffic. (HP Loadrunneretc)

5.9 Regression Testing

New development, regression tests will be performed will al future bug fixes.

5.10 Acceptance Testing

(Testing conducted to determine whether or not a system satisfies the acceptance criteria and to enable the customer to determine whether or not to accept the system. Acceptance testing ensures that customer requirements' objectives are met and that all components are correctly included in a customer package.)

5.11 Beta Testing

(Testing, done by the customer, using a pre-release version of the product to verify and validate that the system meets business functional requirements. The purpose of beta testing is to detect application faults, failures, and defects.)

6. PASS / FAIL CRITERIA

(Specify the criteria to be used to determine whether each item has passed or failed testing.)

6.1 Suspension Criteria

(*Specify the criteria used to suspend all or a portion of the testing activity on test items associated with the plan.)*

6.2 Resumption Criteria

(Specify the conditions that need to be met to resume testing activities after suspension. Specify the test items that must be repeated when testing is resumed.)

6.3 Approval Criteria

(Specify the conditions that need to be met to approve test results. Define the formal testing approval process.)

7. TESTING PROCESS

(Identify the methods and criteria used in performing test activities. Define the specific methods and procedures for each type of test. Define the detailed criteria for evaluating test results.)

7.1 Test Deliverables

(Identify the deliverable documents from the test process. Test input and output data should be identified as deliverables. Testing report logs, test incident reports, test summary reports, and metrics' reports must be considered testing deliverables.)

7.2 Testing Tasks

(Identify the set of tasks necessary to prepare for and perform testing activities. Identify all intertask dependencies and any specific skills required.)

7.3 Responsibilities

(Identify the groups responsible for managing, designing, preparing, executing, witnessing, checking, and resolving test activities. These groups may include the developers, testers, operations staff, technical support staff, data administration staff, and the user staff.)

7.4 Resources

(Identify the resources allocated for the performance of testing tasks. Identify the organizational elements or individuals responsible for performing testing activities. Assign specific responsibilities. Specify resources by category. If automated tools are to be used in testing, specify the source of the tools, availability, and the usage requirements.)

7.5 Schedule

(Identify the high level schedule for each testing task. Establish specific milestones for initiating and completing each type of test activity, for the development of a comprehensive plan, for the receipt of each test input, and for

the delivery of test output. Estimate the time required to do each test activity.)

(When planning and scheduling testing activities, it must be recognized that the testing process is iterative based on the testing task dependencies.)

8. ENVIRONMENTAL REQUIREMENTS

(Specify both the necessary and desired properties of the test environment including the physical characteristics, communications, mode of usage, and testing supplies. Also provide the levels of security required to perform test activities. Identify special test tools needed and other testing needs (space, machine time, and stationary supplies. Identify the source of all needs that is not currently available to the test group.)

8.1 Hardware

HP DL180

8.2 Software

Centos 5.6
Backup application 1.0

8.3 Security

Security will be performed in isolation, requires metasploit framework community edition.

8.4 Tools

Bugzilla
HP Loadrunner
Siege
Kali
Metasploit

8.5 Publications

Software test plan
Software test report
Software Pentest report
Software test case raw data

8.6 Risks and Assumptions

Due to storage requirements, the maximum backup we can test is 100GB, it is likely that backups will far exceed this in the field.

9. CHANGE MANAGEMENT PROCEDURES

Step	Description
Generate CR	A submitter completes a CR Form and sends the completed form to the Change Manager
Log CR Status	The Change Manager enters the CR into the CR Log. The CR's status is updated throughout the CR process as needed.
Evaluate CR	Project personnel review the CR and provide an estimated level of effort to process, and develop a proposed solution for the suggested change
Authorize	Approval to move forward with incorporating the suggested change into the project/product
Implement	If approved, make the necessary adjustments to carry out the requested change and communicate CR status to the submitter and other stakeholders

10. PLAN APPROVALS

Approved by _____ Date__/__/____